While Loop

* We need to print Hello 5 times.

Solution :- SOP ("Hello ");

SOP ("Hello ");

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⇒ This is not extendible to print 100 or 100 times.

SOLUTION:-
```
int Count = 1;
while ( count <= 100) {
    SOP ("Hello ");
    Count ++;
}
```

SYNTAX :-
```
// initialization
while ( condition ) {
    // loop work
    // updation;
}
```

Question 6 :- Given an integer N as input, print
its digit ?

Ex :- N = 6531 | → 1 3 5 6

OBSERVATIONS :- ① We need to Get the digits
1 by 1.

By Using %10

② We need to remove
last digit 1 by 1

By using /10

N = 6 5 3 1

N	N%10	N/10
6531	1	653
↓		
653	3	65
↓		
65	5	6
↓		
5	6	0

CODE :-

```
int N = Scn.nextInt ()

while (N > 0) {
    int Rem = N % 10;
    SOP ( Rem + " ");
    N = N/10;
}
```

FIX 1 :- Use N >= 0 in Condition of while loop.

```
int N = Scn.nextInt ()

while (N >= 0) {
    int Rem = N % 10;
    SOP ( Rem + " ");
    N = N/10;
}
```

★ Will Not Work as it leads to infinite condition.

FIX 2 :- Handle n==0 Seperately.

int N = Scn. nextInt()

```
if (N == 0) {
    SOP ( N + " ");
} else {
    while (N > 0) {
        int Rem = N % 10;
        SOP ( Rem + " ");
        N = N/10;
    }
}
```

← H.W

★ what about -ve Nos.

↳ Ex:- -123 |→ -321

Question 8 :- Given N print Sum of its Digit ?

Constraint   N > 0

Ex:-   6 5 3 1 $\mapsto$ $\dfrac{sum}{15}$

OBSERVATION

N	N%10	N/10	Sum
6531	1	653	1
653	3	65	4
65	5	6	9
6	6	0	15

CODE :-

```
int N = Scn.nextInt()
int Sum = 0;

while (N > 0) {
    int Rem = N % 10;
    Sum = Sum + Rem;
    N = N/10;
}
SOP (Sum);
```

QUIZ -4 : How to append Single Digit Number [D] after Another Number [R]

Let $R = 13$

$d = 4$

$\Rightarrow R \times 10 + d$

$\Rightarrow 13 \times 10 + 4$

$\Rightarrow 130 + 4$

$\Rightarrow 134$

Question 9 :-   Given N, print Reverse of it?

Ex:-   6531 | → 1356

OBSERVATION :-

$Ans \times 10 + N\%10$

N	N%10	N/10	Reversed Number
6 5 3 1	1	653	1
653	3	65	13
65	5	6	135
6	6	0	1356

CODE :-

```
int N = Scn. nextInt()
int Rev = 0;

while (N > 0) {
    int Rem = N % 10;
    Rev = Rev * 10 + Rem;
    N = N/10;
}
SOP ( Rev);
```

Online Ide Notes.

https://www.scaler.com/topics/java/online-java-compiler/?
snippet_slug=9123eb30f3b34505e1a6